

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CRAIG C. SUNDBERG and ROBERT H. MARTTER

Appeal No. 97-3030
Application No. 08/254,181¹

ON BRIEF

Before KRASS, BARRETT, and HECKER, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision from the final rejection of claims 1, 5, 7, 8, 11 through 15 and 17 through 19. Claims 2, 3, 6, 10 and 16 have been withdrawn as being directed to a nonelected invention. Claims 4 and 9 have been cancelled.

¹ Application for patent filed June 6, 1994.

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The invention is directed to electronic air fresheners; more particularly, to electronically heated air fresheners wherein a vaporizable scent material in the form of a fragrance block is heated in order to motivate the escape of a scent. The heating circuit comprises a porcelain enamel metal substrate which has a layer of fused porcelain enamel bonded to the metal substrate and a thick film, electrically resistive heating element bonded directly to the fused porcelain enamel coating. Thick film conductors are also bonded to the fused porcelain enamel coating.

Representative independent claim 1 is reproduced as follows:

1. An electrically heated air freshener for producing a scent comprising:

i. a housing having a receptacle for supporting a fragrance block, said fragrance block comprising a material that volatilizes upon heating; and

ii. a porcelain enamel metal substrate adjacent to said fragrance block, said porcelain enamel metal substrate comprising a metal substrate having a porcelain enamel coating bonded thereto, said porcelain enamel coating having bonded thereto:

a. a resistance strip for generating heat for volatilizing said fragrance block upon application of an electrical current; and

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b. a conductive strip for conducting electrical current to said resistance strip.

The examiner relies on the following references:

Hedden et al. (Hedden)	3,396,055	Aug. 6, 1968
Pons Pons	4,425,302	Jan. 10, 1984
Napierski	4,588,874	May 13, 1986
Hawkins	4,730,103	Mar. 8, 1988
Maury et al. (Maury)	4,947,075	Aug. 7, 1990
Yamamoto et al. (Yamamoto)	5,000,662	Mar. 19, 1991
Hung et al. (Hung)	5,155,649	Oct. 13, 1992

Claims 1, 5, 7, 8, 11 through 15 and 17 through 19 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, in the final rejection, the examiner cited Pons Pons, Yamamoto and Napierski with regard to claims 1 and 11 through 14, adding Hawkins with regard to claims 5, 7 and 8, adding Hung to the original combination with regard to claims 15, 17 and 18 and relying on Pons Pons, Yamamoto, Hawkins and Maury with regard to claim 19. In a new ground of rejection entered in the principal answer, the rejections of the claims remain the same except that the examiner has dropped reliance on Napierski altogether and substitutes Hedden for Yamamoto.

Reference is made to the briefs and answers for the respective positions of appellants and the examiner.

OPINION

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The primary reference to Pons Pons discloses a conventional electronically heated air freshener having a fragrance bar 2 stored in a compartment 6 wherein a casing 7 encloses the entire package which is then plugged into a standard electrical outlet via prongs 10. Connection to the AC power supply permits heat resistance 11 to heat the vaporizable scent material of the fragrance bar 2. As recognized by the examiner, Pons Pons does not disclose the heat source to be a porcelain enamel metal substrate," as claimed.

The examiner employs Napierski for the teaching of providing a heater adjacent to a fragrance block or in direct contact with a block to be heated. It is our view that any such teaching provided by Napierski is merely cumulative to that already taught by Pons Pons wherein heat resistance 11 is adjacent the fragrance bar and provides for heating the bar.

For the teaching of "a porcelain enamel metal substrate," the examiner relies on Yamamoto. Yamamoto does, indeed, disclose a porcelain enamel metal substrate, e.g., lines 3-4 of the Abstract. The examiner reasons (principal answer-page 3) that "Yamamoto shows that it is known in the art to use a

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heater that has heaters and conductors printed on a porcelain enameled metal substrate" and that it would have been obvious "to adapt Pons Pons with a porcelain enamel substrate heater taught in Yamamoto and put a fragrance block adjacent to the heater for improved heat transfer as in Napierski."

Appellants argue that Yamamoto is not properly combinable with Pons Pons because Yamamoto is not directed to heated air fresheners and therefore constitutes nonanalogous art. The examiner cites the correct test for analogous art, i.e., whether the reference is within applicant's field of endeavor and, if not, whether the reference is reasonably pertinent to the particular problem with which the inventor was concerned. The examiner then concludes that Yamamoto is in the same field of endeavor "which is in the field of electrical devices."

While we agree with the examiner that Yamamoto constitutes analogous art, we do not agree with the examiner's assessment that it is within appellants' field of endeavor because it is in the field of "electrical devices." That is such a broad "field of endeavor" that the skilled artisan would not be expected to have knowledge of or be familiar with every electrical device. However, Pons Pons clearly discloses

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that a heating resistance or some source of heat should be used adjacent a fragrance bar and those skilled in that art would have been expected to be familiar with such elements. Those seeking to modify the heating element of Pons Pons would be expected to look to the heating arts. Although Yamamoto is not directed to electrically heated air fresheners, it is directed, somewhat, to heating elements in its use of a porcelain enamel metal substrate. So while Yamamoto does not appear to be within appellants' field of endeavor, i.e., heated air fresheners, it is, in our view, reasonably pertinent to the particular problem with which appellants were concerned, i.e., heating.

Having said that, although we have determined that Yamamoto does constitute analogous art, we hold that the instant claimed subject matter would not have been obvious, within the meaning of 35 U.S.C. § 103, based on any combination of Pons Pons, Yamamoto, Napierski, Hawkins, Hung and Maury. Only Yamamoto is alleged to provide the teaching of the claim limitation, "a porcelain enamel metal substrate." While Yamamoto does, indeed, disclose such, the porcelain enamel metal substrate disclosed therein is not used as a heat

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source, as in the instant claimed invention. The porcelain enamel metal substrate of Yamamoto is part of a motor control board for controlling the speed of a motor. While there is some ancillary heating taking place, it is the overheating of the porcelain enamel metal substrate which becomes important to Yamamoto as this occurrence is used to trip a temperature fuse and break the resistance circuit. The porcelain enamel metal substrate of Yamamoto is not being used to purposely provide heat to another element, i.e., the fragrance bar, as claimed, and we find nothing within the disclosures of Pons Pons and Yamamoto which would have led the artisan to employ the porcelain enamel metal substrate of Yamamoto as a heating element in Pons Pons to heat the fragrance bar 2 of Pons Pons.

Accordingly, we will not sustain the rejection of claims 1, 5, 7, 8, 11 through 15 and 17 through 19 under 35 U.S.C. § 103 wherein Yamamoto is used as a basis for the rejection.

We reach varied, sometimes opposite, results with regard to the new ground of rejection wherein Hedden is substituted for Yamamoto.

Hedden clearly teaches that a porcelain enamel metal substrate may be employed as a heating panel to generate

uniform, clean radiant heat. With such a teaching in mind, in view of Pons Pons' teaching of using a heating element adjacent a fragrance bar to heat the fragrance bar in an air freshener, it is our view that the skilled artisan would have found it obvious to employ a porcelain enamel metal substrate to heat the fragrance bar in Pons Pons.

Appellants contend that Hedden is not analogous art and therefore would not be combinable with Pons Pons. We disagree for the reasons stated supra with regard to Yamamoto. That is, although Hedden is not directed to air fresheners, the artisan looking for heating elements to use in Pons Pons, which suggests the use of a heating resistance but is not tied to any particular heating element, would have looked to the heating arts of which Hedden is a part. Hedden is clearly reasonably pertinent to the problem, i.e., heating, with which appellants were concerned.

We do not find the examiner's rejection to be unreasonable because Hedden is not directed to either air fresheners or to any particular application of the disclosed heating panels. The rejection is based on a combination of references, e.g., Pons Pons and Hedden. The artisan looking

to practice the Pons Pons invention would have looked to the heating arts in order to provide for the heating of the fragrance bar, as suggested by Pons Pons. The porcelain enamel metal substrate of Hedden would have provided for such a heating element. 35 U.S.C. § 103 does not require that Hedden expressly indicate that the heating panels therein are to be used for heating fragrance bars. The skilled artisan is presumed to know something about his/her art apart from that explicitly disclosed by a reference. We disagree with appellants that any "considerable modification" of Pons Pons would be necessary to incorporate therein the porcelain enamel metal substrate of Hedden and we disagree with appellants that any impermissible hindsight would have been required to reach the instant claimed subject matter with regard to claim 1.

With regard to claim 11, appellants argue (reply brief-page 5) that Hedden "discloses absolutely nothing" about a fragrance block being immediately adjacent to the porcelain enamel metal substrate heater. This argument ignores the *combination* of Hedden with Pons Pons and is not persuasive since Pons Pons provides the teaching of placing a heating element immediately adjacent to the fragrance block.

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With regard to claims 12 and 13, appellants argue (reply brief-page 5) that the claimed resistance strips and conductive strip as fired thick film material run "counter to the teachings of Pons Pons." Again, appellants argue the references individually when the rejection is based on a *combination* of references. The examiner relies on Hedden for the limitations of claims 12 and 13. Thus, appellants' arguments in this regard are not persuasive.

We will sustain the rejection of claims 1 and 11 through 13 under 35 U.S.C. § 103 as unpatentable over Pons Pons and Hedden.

We will not sustain the rejection of claim 14 under 35 U.S.C. § 103 as unpatentable over Pons Pons and Hedden because the claim specifically calls for the porcelain enamel metal substrate to include "two or more of said resistance paths." We find no such suggestion in Hedden, which is relied on for the porcelain enamel metal substrate, and the examiner has not explained how this claim limitation is reached by the teachings of the applied references.

With regard to the rejection of claims 5, 7 and 8 under 35 U.S.C. 103 in view of Pons Pons, Hedden and Hawkins, we

will sustain this rejection. It is our view that Hawkins is merely cumulative to the teachings of Pons Pons because the latter already teaches the use of protruding metal prongs for insertion into a 120VAC wall outlet wherein the prongs are connected to the heating element. When adapting the porcelain enamel metal substrate of Hedden to the Pons Pons device as the heating element, it would have been obvious to the artisan that the connection from the power supply must be made to conductive strips of the porcelain enamel metal substrate in order to provide electrical power for heating the substrate. As far as the prongs being "mechanically connected" to the porcelain enamel metal substrate, the artisan would have been well aware of the equally obvious alternatives of either mechanically connecting the prongs, supplying the power, to the substrate, or electrically connecting the prongs to the substrate via conductive wire. Similarly, with regard to claim 8, although the applied references do not explicitly disclose rivets, the skilled artisan would have known that one of many equally obvious ways to make a mechanical connection, e.g., of prongs to the substrate, would have been the application of rivets. Clearly, the artisan must be presumed

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to know basic skills apart from that which is explicitly described by the references and appellants' arguments to the contrary are not well taken.

We will not sustain the rejection of claims 15, 17 and 18 under 35 U.S.C. § 103 over Pons Pons, Hedden and Hung.

Claim 15 recites a "thermal barrier slot for inhibiting the transfer of heat along the porcelain enamel metal substrate." The examiner relies on Hung for a teaching, pointing to feature 348 in Figure 12 and "column 19, lines 62-64" [sic, column 10?], of Hung, of a resistance circuit board with a thermal barrier for thermal isolation between the resistors. The examiner then concludes that it would have been obvious to provide a thermal barrier slot in the heater board of Pons Pons in view of Hedden to better control the thermal pattern of the heating element. See page 7 of the principal answer.

We are in agreement with appellants' reasonable argument that while Hung does disclose a barrier slot in a printed circuit board within a surge protector, there would appear to be no reason to extend such a teaching to the air freshener of Pons Pons, or to the air freshener of Pons Pons as modified by

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Hedden, to include a porcelain enamel metal substrate as the heating element, to include a thermal barrier slot for inhibiting the transfer of heat along the porcelain enamel metal substrate. The examiner's rationale of "to better control the pattern of electrical heating" (supplemental answer-page 3) is not persuasive as there is no suggestion that there would be any problem with the pattern of electrical heating when using a porcelain enamel metal substrate.

Since we do not sustain the rejection of claim 15 under 35 U.S.C. § 103 over Pons Pons, Hedden and Hung, we also will not sustain the rejection of claims 17 and 18 since these claims depend from claim 15.

Finally, we turn to the rejection of claim 19 under 35 U.S.C. § 103 as unpatentable over Pons Pons, Hedden, Hawkins and Maury. Among other things, claim 19 recites

said mechanical connection comprising a
forked portion formed on the ends of said
electrical contact prongs, said forked ends
adapted to securely engage said porcelain enamel
metal substrate as an edge connector.

Hawkins is applied by the examiner to show that it was known to use electrical prongs adapted to a 120 volt outlet.

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However, it appears to us that as far as this goes, Hawkins is merely cumulative to what is already suggested by Pons Pons.

Maury is used by the examiner to show that it was known to use forked end portions (26-28 of Figures 1 and 3 of Maury) to engage an electrical connector to an edge of a substrate. We will not go so far as appellants in contending that Maury constitutes nonanalogous art, since Maury, Pons Pons and the instant claimed subject matter all are concerned with connections to electrical prongs, but we find no suggestion within the applied references or within the ordinary skill of the artisan which would have led the artisan to employ a forked portion formed on the ends of the electrical contact prongs wherein the forked ends are adapted to engage the porcelain enamel metal substrate as an edge connector. The examiner says it would have been obvious to use forked end portions to engage an electrical connector to a substrate "for more secure installation of the electrical connectors" (principal answer-page 8). However, we see no reason, and find no suggestion by the art of record, to rearrange the structure of Pons Pons in order to provide for a forked portion formed on the ends of said electrical contact prongs,

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said forked ends adapted to securely engage said porcelain enamel metal substrate as an edge connector. While we think that it would have been obvious to modify Pons Pons in order to include a porcelain enamel metal substrate as the heat source for heating the fragrance bar, we are aware of no evidence that would have also made it obvious to further modify Pons Pons to also include a forked portion formed on the ends of electrical contact prongs, said forked ends adapted to securely engage said porcelain enamel metal substrate as an edge connector.

We have not sustained the rejection of claims 1, 5, 7, 8, 11 through 15 and 17 through 19 under 35 U.S.C. § 103 based on various combinations of references, each combination including the Yamamoto reference. We also have not sustained the rejection of claims 14, 15 and 17 through 19 under 35 U.S.C. 103, based on various combinations of Pons Pons, Hedden, Hawkins, Hung and Maury. However, we have sustained the rejection of claims 1 and 11 through 13 under 35 U.S.C. 103 based on Pons Pons and Hedden. We have also sustained the rejection of claims 5, 7 and 8 under 35 U.S.C. 103 as unpatentable over Pons Pons, Hedden and Hawkins.

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The examiner's decision is affirmed-in-part.

No period for taking any subsequent action in connection
with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

ERROL A. KRASS)	
Administrative Patent Judge)	
)	
)	
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)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS

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Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
STUART N. HECKER)	
Administrative Patent Judge)	

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APJ BARRETT

APJ HECKER

DECISION: AFFIRMED-IN-PART

Send Reference(s): Yes No
or Translation (s)

Panel Change: Yes No

Index Sheet-2901 Rejection(s): _____

Prepared: November 17, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT